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Interchange work begins Jan.

Barbara Christiansen - North county staff

The wave of the future appears to be heading toward American Fork's West Main Street.

The freeway interchange at that location will sport a new design -- one that has yet to be constructed anywhere in the country.

"It is a very new innovative concept," said Bryan Adams, project director for UDOT's Access Utah County. It is called a diverging diamond Interchange (DDI) and has been used in Europe. The one in American Fork and one in Springfield, Mo., will both begin construction in January.

Adams recounted the benefits of the new design.

"It is safer to drive and requires less time and money to build," he said. "To us, using the DDI is a no-brainer and will be the wave of the future in interchange technology."

"We are interested in building one of these," Adams said. "There are a lot of advantages. One of them that really has driven us is how well it operates. We feel this type of interchange operates as well or better in some situations. We are excited about it."

Another advantage Adams listed is that traffic flow can be maintained while construction takes place. UDOT had considered building a Single Point Urban Interchange (SPUI) in that location. An example of that type of intersection is at University Parkway and Interstate 15. That design would have allowed the same traffic flow, because it would have been slightly south of the present West Main interchange and would have been at right angles to the freeway. City officials, however, had urged UDOT to have a diamond interchange similar to the one already in place. An advantage they mentioned is that there would be access maintained for businesses adjacent to the interchange, such as ValuePlace Hotel.

The diverging diamond interchange offers advantages of both. It has two separate structures over the freeway; one can be built while the present West Main overpass is in use. The new overpass can be used while the existing one is torn down and rebuilt.

City Councilman Dale Gunther pointed out one advantage the city felt would happen with the new design.

"It won't dead end our Main Street," he said at the Oct. 28 City Council meeting.

Mayor Heber Thompson said that UDOT had looked at the new style because of its efficiency.

"It gets 30 percent more throughput of traffic compared to the most efficient SPUI," he said.

At first motorists may not be quite as enthusiastic about the new design.

"It isn't going to be like anything anybody in Utah has driven," Scott Thompson, UDOT Region 3 public relations representative, said. "We will do a large community outreach program."

Drivers may feel they are on the wrong side of the street as they travel along the two overpasses. The east-bound lanes will be on the north side and the west-bound ones are on the south. The design allows more free flow of traffic and uses two signal lights instead of the standard three, which the officials estimate will enable more vehicles to go through the area in less time.

The new design is also quicker and less costly to build, Adams said.

"There will be multi-million dollar savings," he said.

"A SPUI is a lot larger," Adams said. The resulting smaller structure will naturally have a smaller material cost, he said. "There are two independent bridges which are a lot smaller. We are reducing the overall size by about 40 percent."

Scott Thompson said there would also be lower costs for the land involved.

"It is a lot less expensive to do," he said. "It takes a lot less right of way to build this. In the end it will be a lot less expensive than the original estimate and a good use of taxpayer dollars."

Being able to build the structures more rapidly will also save money, he said.

"The north side is where the existing bridge is today," Adams said. That will remain in place to carry traffic while the south side is built. "The contractor will build the south bridge, then shift traffic over onto that one before he tears out the old structure. He is able to maintain traffic on Main Street the whole time."

"It gives us a lot of flexibility to work around existing traffic," Scott Thompson said.

He said the south bridge is expected to be opened in November '09, with the entire structure open the following November.

Adams said minor activity would begin around the middle or end of this November.

It is unsure whether a DDI in Missouri would precede the one in American Fork to be the first in the nation, Scott Thompson said, although he said Missouri's might be done sooner.

"It looks like the one in Utah and the one in Missouri will be the first ones, but in Missouri all they are building is the interchange," he said. The Utah project is tied in with the Pioneer Crossing in Lehi which may make it take longer, he said.

Adams said that makes the project all the more exciting.

"The Pioneer Crossing is one of the exciting pieces of this road," he said. "It will open a new road for east-west traffic."

"That is a huge benefit to Lehi and Eagle Mountain," he said. "We are really excited about it."